WIPCOOL®

TWÓJ KLUCZ DO KOMFORTU

OPERATING MANUAL · ENGLISH

2F10

Industrial Vacuum Pump

Read this manual before use. Keep it with the unit for its entire service life.



Read the manual
Safety and connection rules before the first start-up.

Service and warranty
Service requests and warranty terms at wipcool.eu.

Documents online
Manual, data sheet and declaration of conformity at wipcool.eu.

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How to use this manual

Find the chapter you need. The numbers on the right are the pages of this booklet.

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MEANING OF SYMBOLS



Separate collection of WEEE

Do not dispose of used equipment with household waste.



CE marking

Manufacturer's declaration of conformity with EU requirements.



Read the manual

Safety and operating rules before starting work.

Wipcool 2F10 user manual

The Wipcool 2F10 is an oil-lubricated vacuum pump for industrial applications, fitted with a non-return valve. It can operate independently or as a backing pump.

The user manual is an integral part of the product. Please read this manual carefully and follow all instructions closely.

General information

Wipcool products are designed for professional use by qualified air conditioning and refrigeration engineers. As the manufacturer, Wipcool stipulates that our equipment should only be operated by suitably qualified and trained persons.

- Observe all local safety regulations and general safety standards when using the Wipcool 2F10 Industrial Vacuum Pump.
- The user manual should be kept near the device so that personnel can access it easily at all times.
- Before use, qualified personnel should read the user manual carefully and understand all the instructions it contains.
- The manufacturer accepts no liability for any damage resulting from improper use, failure to follow the user manual, lack of qualifications among personnel or any unauthorised modifications to the device.
- The general terms and conditions of sale contained in the sales documents apply.

Symbols and conventions

Signs and markings used on the device and in the manual:

01



Warning - read the text in the box next to the symbol.

02



Dangerous voltage - risk of electric shock.

03



Hot surface - wait for it to cool before touching.

04



Read all safety and installation instructions carefully before starting work.

05



Do not dispose of the pump with household waste.

06



Notice - risk of damage to the device or an incorrect operating result.

Safety information

WARNING
Before dismantling or disconnecting the pump from the vacuum system, switch off the pump and disconnect the power supply.

WARNING
Check the pump for oil leaks. Spilt oil presents a slipping hazard.

WARNING
When lifting the pump with a hoist or lifting device, check that the pump and lifting equipment are securely attached. A falling pump can cause injury and damage to the device.

- Do not draw in gases containing dust, corrosive or explosive gases, or gases that react with the metal parts of the pump.
- Do not use the pump as a compressor or transfer pump.

- The pump temperature must not exceed 80 °C during operation.

> **WARNING**
> The pump and motor may be hot during operation and shortly afterwards. Do not touch hot parts with bare hands.

Technical specifications

Parameter	Value
Model	2F10
Power supply	230 V~ / 50 Hz
Ambient operating temperature	8–40 °C
Ambient humidity	up to 85%
Rotational speed at 50 Hz	1420 rpm
Sound level	≤53 dB
Device weight	approx. 40 kg
Pump dimensions (L × W × H)	580 × 200 × 290 mm

Device diagram

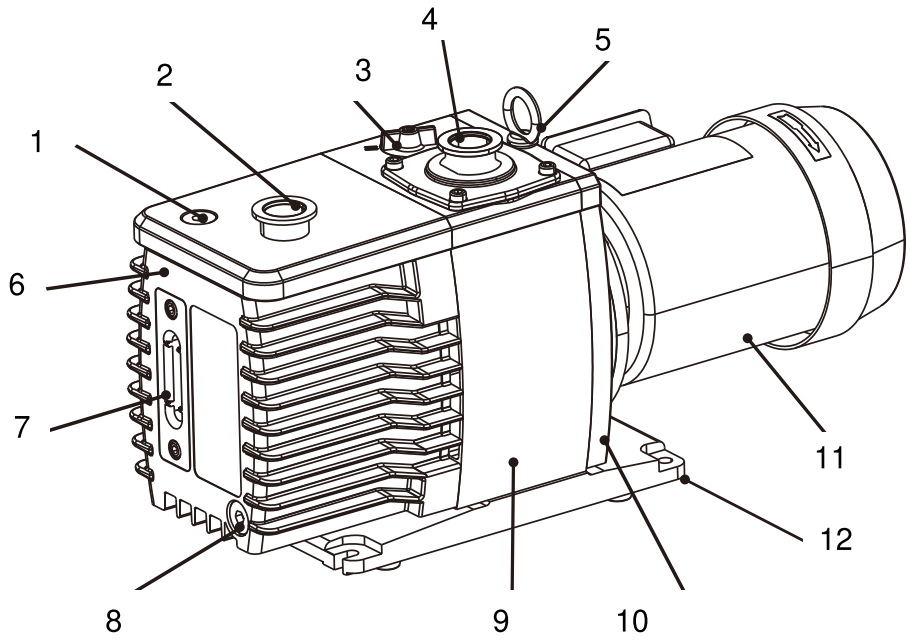


Figure 1. Vacuum pump components.

No.	Name
1	Oil filler plug
2	Outlet port
3	Gas ballast valve
4	Inlet port
5	Lifting eye
6	Oil reservoir
7	Oil sight glass
8	Oil drain plug
9	Pump base
10	Motor base
11	Motor
12	Base plate

Dimensions

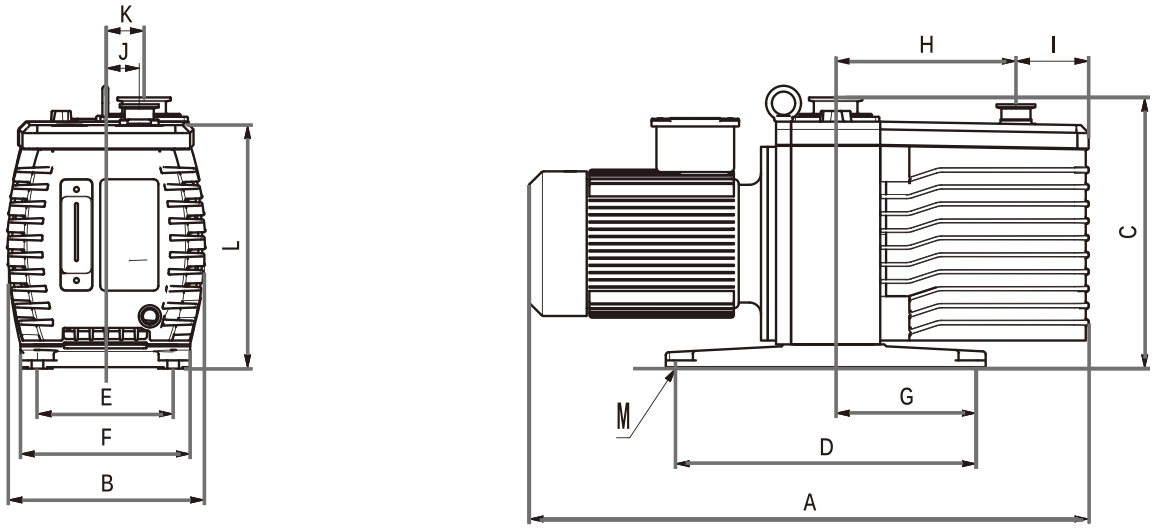


Figure 2. Pump dimensions - labels A–M.

Label	Dimension [mm]
A	580
B	200
C	290
D	310
E	140
F	175
G	160
H	186
I	75
J	40
K	34
L	262
M	Ø12

Package contents

After unpacking, check that all items are present and in good condition. Report any missing items or transport damage to the seller.

- Wipcool 2F10 Vacuum Pump.
- User manual.

Transport and storage

- Transport the pump in its original packaging.
- Store the pump in a dry place, away from direct sunlight and heat sources, at a temperature of -20 to +60 °C.

Application

The pump is used to create a vacuum in refrigeration and air conditioning, the electronics and semiconductor industries, vacuum packaging, freeze-drying, scientific research and analytical equipment. It can operate independently or as a backing and booster pump in high and ultra-high vacuum systems, working with molecular, diffusion and Roots pumps.

Installation

01 Position the pump horizontally. Positioning it at an angle or on an unstable surface can cause vibration, noise and damage.

02 When connecting the pump to a vacuum system, secure the pump base with bolts.

03 Provide ventilation and access for connections, maintenance and dismantling. The ambient temperature should be 8–40 °C, and humidity must not exceed 85%.

Connection

Electrical connection and rotation direction test

WARNING
Only a qualified electrician may connect the pump and test the direction of rotation. Disconnect the power supply before working on the connections, and follow the diagram and markings on the motor. The power supply parameters must match the motor nameplate.

01 Before the test, check the oil level in the oil sight glass.

02 Remove the caps from the inlet and outlet ports. Place the inlet port cap loosely on the inlet port.

03 Switch the pump on briefly and observe the inlet port cap. If it is drawn in, the motor is rotating in the correct direction. After the test, switch off the pump and disconnect the power supply. If the cap is not drawn in, do not start the pump and report this to the electrician.

Vacuum system

01 Use inlet and outlet lines that are as short as possible and have a large diameter, and keep the number of elbows to a minimum.

02 The inlet line diameter must not be smaller than the diameter of the pump inlet port. A diameter that is too small reduces pumping speed.

03 The outlet line diameter must not be smaller than the diameter of the outlet port. A diameter that is too small increases the pressure inside the pump and causes an unstable vacuum.

04 Route the outlet line so that condensate and contaminants cannot flow back into the pump.

05 Connect the inlet line to the inlet port and the outlet line to the outlet port.

06 Check the lines and their connections to the pump for leaks. A leak prevents the pump from reaching its ultimate pressure.

Operation

Preparation and start-up

> **CAUTION**
> Do not start the pump with the outlet port closed or capped.

> **CAUTION**
> Do not leave the pump running with the inlet port open to the atmosphere for longer than 3 min. The pump can operate continuously at an inlet pressure below 13 mbar.

01 Check that the outlet port is clear and check the oil level in the oil sight glass.

02 Check that the lines are connected and that the motor direction of rotation has been checked. The power supply parameters must match the motor nameplate.

03 When pumping non-condensable gases, close the gas ballast valve, connect the power supply and switch on the pump.

Finishing work

Switch off the pump when pumping is complete. Before an extended period out of use, cap the inlet and outlet ports to prevent dust and dirt from entering the pump.

Maintenance

Oil level and quality

During operation, the oil level should be between the MIN and MAX marks on the oil sight glass. Before adding or draining oil, switch off the pump and disconnect the power supply. If the level is too low, unscrew the oil filler plug (1 in Figure 1), add oil and tighten the plug. If the level is too high, place a container under the oil drain plug (8 in Figure 1), unscrew the plug and drain the excess oil, then tighten the plug.

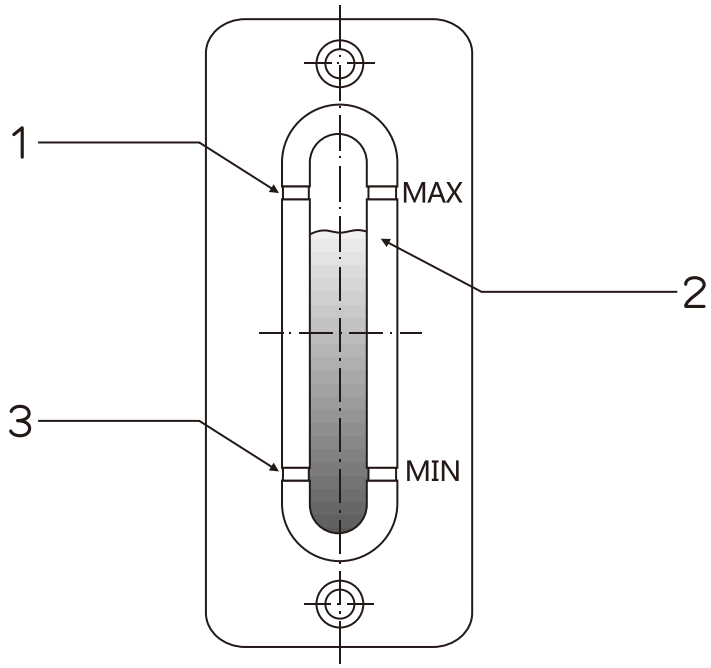


Figure 3. Oil level in the sight glass: 1 - maximum (MAX), 2 - recommended, 3 - minimum (MIN).

The oil should be clean and clear. If the oil is dark or cloudy, have it changed by the service department immediately - submit a service request at wipcool.pl/serwis. Use Wipcool WPO-3 vacuum pump oil.

When to change the oil

- The recommended interval between oil changes is approximately 100 h of operation; adjust it to the conditions of use.
- When using the pump for the first time, shorten the interval before the first oil change.

- A deterioration in the vacuum achieved over operating time indicates that the oil needs changing.

Inlet filter mesh

Dust and oil deposits on the inlet filter mesh restrict flow. Have the service department inspect and clean the mesh at intervals suited to the operating conditions - submit a service request at wipcool.pl/serwis.

Troubleshooting

Problem	Possible cause	Solution
Pump does not start	No power supply	Check the power supply. Have an electrician check the switch and wiring connections.
Pump does not start	Incorrect motor supply voltage	Ensure the voltage matches the motor nameplate.
Pump does not start	Motor failure	Have the service department repair it - submit a service request at wipcool.pl/serwis.
Pump does not start	Ambient temperature too low	Ensure an ambient temperature of 8–40 °C.
Pump does not start	Damage to internal components	Have the service department repair it - submit a service request at wipcool.pl/serwis.
Pump does not start	Foreign object blocking the motor	Have the service department repair it - submit a service request at wipcool.pl/serwis.
Pump does not start	Damaged non-return valve	Have the service department repair it - submit a service request at wipcool.pl/serwis.
Pump does not reach ultimate pressure	Gas ballast valve open	Close the gas ballast valve.
Pump does not reach ultimate pressure	Vacuum system leak	Locate and repair the leak.
Pump does not reach ultimate pressure	Inaccurate or unsuitable vacuum gauge	Have the service department repair it - submit a service request at wipcool.pl/serwis.

Problem	Possible cause	Solution
Pump does not reach ultimate pressure	Contaminated oil or oil level too low	Top up the oil if the level is too low. Have the service department change the contaminated oil - submit a service request at wipcool.pl/serwis.
Pump does not reach ultimate pressure	Blocked oil supply system	Have the service department repair it - submit a service request at wipcool.pl/serwis.
Pump does not reach ultimate pressure	Damaged outlet valve plate	Have the service department repair it - submit a service request at wipcool.pl/serwis.
Pump does not reach ultimate pressure	Damaged non-return valve	Have the service department repair it - submit a service request at wipcool.pl/serwis.
Pumping speed too low	Inlet or outlet lines too narrow or too long	Select lines of a suitable diameter and length.
Pumping speed too low	Blocked inlet filter mesh or lines	Clear the lines. Have the service department clean the inlet filter mesh - submit a service request at wipcool.pl/serwis.
Pumping speed too low	Contaminated oil	Have the service department change the contaminated oil - submit a service request at wipcool.pl/serwis.
Pumping speed too low	Vacuum system leak	Locate and repair the leak.
Pumping speed too low	Unsuitable pump selected	Select a pump with a capacity suited to the system requirements.
Pumping speed too low	Damaged non-return valve	Have the service department repair it - submit a service request at wipcool.pl/serwis.
System pressure rises too quickly after the pump stops	Vacuum system leak	Locate and repair the leak.
System pressure rises too quickly after the pump stops	Damaged non-return valve	Have the service department repair it - submit a service request at wipcool.pl/serwis.
Pump temperature too high	Incorrect supply voltage	Have an electrician check the power supply, switch and wiring connections.

Problem	Possible cause	Solution
Pump temperature too high	Damaged motor bearings	Have the service department repair it - submit a service request at wipcool.pl/serwis.
Pump temperature too high	Oil level too low	Top up the oil.
Pump temperature too high	Damaged coupling	Have the service department repair it - submit a service request at wipcool.pl/serwis.
Pump temperature too high	Foreign object in the pump	Have the service department repair it - submit a service request at wipcool.pl/serwis.
Pump temperature too high	Damaged rotary vane	Have the service department repair it - submit a service request at wipcool.pl/serwis.
Pump temperature too high	Continuous operation at high inlet pressure	Reduce the operating time at high inlet pressure.
Pump temperature too high	Blocked oil supply system	Have the service department repair it - submit a service request at wipcool.pl/serwis.
Pump temperature too high	Damaged pump fan	Have the service department repair it - submit a service request at wipcool.pl/serwis.
Pump temperature too high	Temperature of pumped gas too high	Install a gas cooler upstream of the inlet port.
Pump temperature too high	Ambient temperature too high	Reduce the ambient temperature to within the 8–40 °C range.
Oil discharged through the outlet port	Oil level too high	Drain the excess oil.
Oil discharged through the outlet port	Gas ballast valve open	Close the gas ballast valve.
Oil discharged through the outlet port	Continuous operation at high inlet pressure	Reduce the operating time at high inlet pressure.
Oil discharged through the outlet port	Damaged outlet valve plate	Have the service department repair it - submit a service request at wipcool.pl/serwis.
Oil discharged through the outlet port	Vacuum system leak	Locate and repair the leak.

Problem	Possible cause	Solution
Excessive oil consumption	Leak at the bearing seal	Have the service department repair it - submit a service request at wipcool.pl/serwis.
Excessive oil consumption	Damaged or corroded shaft seal	Have the service department repair it - submit a service request at wipcool.pl/serwis.
Excessive oil consumption	Damaged or incorrectly fitted shaft seal assembly	Have the service department repair it - submit a service request at wipcool.pl/serwis.
Excessive oil consumption	Damaged oil drain plug seal	Have the service department repair it - submit a service request at wipcool.pl/serwis.

Waste electrical and electronic equipment

01



The crossed-out wheeled bin symbol means that the device must not be disposed of with other waste at the end of its life.

Under the applicable regulations on waste electrical and electronic equipment, products marked with the separate collection symbol must not be disposed of with other municipal waste. Because they contain harmful substances, electronic products that are not sorted separately may be hazardous to the environment and human health. Proper separate collection of waste electrical and electronic equipment prevents adverse effects on the environment.

By taking waste equipment to a collection point, the user contributes to its reuse, recycling and recovery.

Recycling - a method of protecting the environment. The process of recovering substances from waste that can be reused as raw materials.

Recovery - the use of waste that has lost its utility value, such as plastics, paper and cardboard, as secondary raw materials; the term is also commonly used to mean destruction of waste.

Information about the collection system for waste electrical and electronic equipment

- Waste electrical and electronic equipment must not be placed together with other waste.
- The collection of incomplete electrical and electronic equipment and parts from waste equipment is prohibited.
- A distributor delivering equipment intended for household use to a buyer must collect waste household equipment free of charge at the delivery location, provided that the waste equipment is of the same type and performs the same function as the equipment delivered.
- The user may hand over waste equipment to a waste equipment collector, a treatment facility or a municipal waste collector operating in the municipality.
- Information about collection points is available on the BIP public information websites of regional, city and municipal authorities.

Service and documents

Before submitting a service request, prepare:

- Model - shown on the device nameplate and on the invoice.
- Serial number - if there is none, provide the production number (e.g. 11/2025), usually found on the underside of the device.
- Proof of purchase - an invoice or receipt from an authorised distributor.
- Fault description - what is happening, when it started and under what conditions.

You can submit a service request at wipcool.pl/serwis. You will also find the warranty terms there.

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SERVICE AND DOCUMENTS

2F10 · Operating manual

EDITION DETAILS

Model	**2F10**
Edition	**04.11.2026 · EN**
Manufacturer	**Zhejiang Wipcool Refrigeration Equipment Co., Ltd.**
Authorised representative	**4REF sp. z o.o., ul. gen. Władysława Andersa 38, 15-113 Białystok**

wipcool.eu

- online manual and other languages
- data sheet and declaration of conformity
- service and requests

CE

The CE marking confirms the declared conformity with EU requirements.
Crossed-out bin: do not dispose of used equipment with household waste.